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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/304,841	05/05/1999	MASAYASU KOYAMA	Q54287	1233

7590

02/24/2003

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EXAMINER

PATTERSON, MARC A

ART UNIT

PAPER NUMBER

1772

21

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/304,841	KOYAMA ET AL.	
	Examiner	Art Unit	
	Marc A Patterson	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6,8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

WITHDRAWN REJECTIONS

1. The 35 U.S.C. 112 second paragraph rejection of Claims 1 – 10 and 35 U.S.C. 103(a) rejection of Claims 1, 4, 6, 8 and 10 – 15 as being unpatentable over Otaki et al. (U.S. Patent No. 5,908,676), of record on page 2 of the previous Action, are withdrawn.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 – 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase ‘non – compatible’ is indefinite as it is unclear whether the composition is incompatible with the oxygen absorbing agent, or some entirely separate composition, or if the resins which the composition comprises are incompatible with each other. For purposes of examination, it will be assumed that the resins are incompatible with each other. The phrase ‘is composed of’ is indefinite as its meaning is unclear. For purposes of examination, the phrase will be assumed to mean ‘comprising.’ The phrase ‘form a multilayer distributed structure’ is indefinite, as it appears to be directed to a method limitation, which is given little patentable weight as discussed below. It is also unclear whether a composition or structure (two different classes of invention) is being claimed. For purposes of examination, it will be assumed that a composition is being claimed, and that one component of the composition is a

Art Unit: 1772

dispersion phase in (therefore incompatible with) the other. The phrase 'as measured by a laser scattering method' is indefinite, as it is unclear which scattering method is used. The phrase also appears to be directed to a method limitation, which is given little patentable weight as discussed below. Claim 1 recites the limitation "resin matrix" in line 2. There is insufficient antecedent basis for this limitation in the claim.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrases 'propylene – type' and 'ethylene – type' are indefinite as their meanings are unclear. For purposes of examination, the phrase will be assumed to mean 'propylene' and 'ethylene.'

5. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase 'based on' is indefinite as its meaning is unclear. For purposes of examination, the phrase will be assumed to mean 'of.'

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4, 6, 10 and 13 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al (U.S. Patent No. 5,542,557).

With regard to Claim 1, 4, 6, 10 and 13 – 15, Koyama et al disclose a thermoplastic resin composition (column 3, lines 46 – 48) containing an oxygen absorbing agent (column 9, lines 48 – 61) and a blend of two resins which are incompatible with each other (one is a dispersion phase in the other; column 10, lines 55 – 62); one resin is a propylene polymer (column 8, lines 18 – 39) and the other resin is an ethylene polymer (column 10, lines 63 – 67; column 11, lines 1 – 2); the oxygen absorbing agent comprises oxygen absorbing agent particles comprising a reducing iron powder (iron disoxidation powder; column 9, lines 61 – 66) and a layer of an oxidation promoter which sticks to the surface of the powder (coating of metal halide; column 9, lines 61 – 66); the particles have an average diameter of less than 50 μm (column 10, lines 26 – 28). Koyama et al fail to disclose particles having an aspect ratio of 0.6 and a compression degree of at least 20%. However, as stated above, Koyama et al disclose an average diameter of less than 50 μm , thus a shortest diameter of less than 50 μm . The shortest diameter, and therefore the aspect ratio and compression degree, would be readily determined through routine optimization by one having ordinary skill in the art

Art Unit: 1772

depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the aspect ratio and compression degree, since the aspect ratio and compression degree would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Koyama et al. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

Koyama et al also fail to disclose particles which are flat. However, Koyama et al disclose particles which are granular, and therefore three – dimensional (column 10, lines 3 – 8). It would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for flat particles, since the modification would have involved a mere change in shape. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

With regard to Claim 4, the ethylene polymer is present in the blend at greater than 1% by weight (column 11, lines 25 – 26).

With regard to Claim 6, the oxygen absorbing agent is contained in an amount of 1 to 200% by weight (column 13, lines 12 – 33).

With regard to Claim 10, the scope of the claims falls within the limitations of Koyama et al as discussed above. The method of making the absorbing agent (product – by – process) is given little patentable weight. Applicant would need to demonstrate, by verified showing, the unexpected advantages accruing from the method of making as claimed.

With regard to Claims 13 – 15, the composition is comprised in a liner for cap for a container (column 4, lines 34 – 48) and is in a layer between two other layers which do

Art Unit: 1772

not comprise oxygen absorbing agent (the shell of the cap, and a coating layer; column 5, lines 5 – 11). With regard to the claimed aspect of the container and cap being ‘molded from a laminated body obtained by laminating a thermoplastic resin layer,’ the scope of the claims falls within the limitations of Koyama et al as discussed above. The method of making the container and cap (product – by – process) is given little patentable weight. Applicant would need to demonstrate, by verified showing, the unexpected advantages accruing from the method of making as claimed.

8. Claims 8 and 11 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al (U.S. Patent No. 5,542,557) in view of Japanese Patent No. 59085804.

Koyama et al disclose a composition comprising an oxygen absorbing agent comprising iron oxide and a promoter as discussed above. The promoter is present in the amount of 1% by weight (column 10, lines 39 – 46). With regard to Claims 8 and 11 – 12, Koyama et al fail to disclose an absorbing agent which has a specific surface area of at least 0.5 square meters per gram and an apparent density of not larger than 2.2 grams per cubic centimeter.

Japanese Patent No. 59085804 teaches the use of iron oxide for chemical reduction having an apparent density of 2.2 grams per cubic centimeter (English Abstract) for the purpose of using an iron oxide of any shape (English Abstract). The desirability of providing for iron oxide having an apparent density of 2.2 grams per cubic centimeter in Koyama et al, which is used for chemical reduction, would therefore be obvious to one having ordinary skill in the art.

Art Unit: 1772

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an apparent density of 2.2 grams per cubic centimeter in Koyama et al in order to use an iron oxide having different shapes as taught by Japanese Patent No. 59085804.

Japanese Patent No. 59085804 also fails to teach a specific surface area of at least 0.5 square meters per gram. However, Japanese Patent No. 59085804 teaches a specific surface area which is sufficient to cause chemical reduction (English Abstract). Therefore, the specific surface area would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the specific surface area, since the specific surface area would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Japanese Patent No. 59085804. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

ANSWERS TO APPLICANT'S ARGUMENTS

9. Applicant's arguments regarding the 35 U.S.C. 112 second paragraph rejection of Claims 1 – 10 and 35 U.S.C. 103(a) rejection of Claims 1, 4, 6, 8 and 10 – 15 as being unpatentable over Otaki et al. (U.S. Patent No. 5,908,676), of record on page 2 of the previous Action, have been considered and have been found to be persuasive. The rejections are therefore withdrawn. The new 35 U.S.C. 112 second paragraph rejections of Claims 1 – 10, 35 U.S.C. 103(a) rejection of Claims 1, 4, 6, 10 and 13 – 15 as being unpatentable over Koyama et al (U.S. Patent No. 5,542,557) and 35 U.S.C. 103(a)

Art Unit: 1772

rejection of Claims 8 and 11 – 12 as being unpatentable over Koyama et al (U.S. Patent No. 5,542,557) in view of Japanese Patent No. 59085804 above are directed to amended Claims 1, 4, 6, 8 and 10 – 15.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

Marc Patterson
Art Unit 1772

Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

2/20/03